

BROOKHAVEN NATIONAL LABORATORY PHYSICS DEPARTMENT	Number: PO-OHS-01	Revision: 1
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Subject: OHSAS 18001 System Description		
OHSDescription_1.doc		
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4.0 OHSAS 18001 Management System

Introduction

The Physics Department carries out forefront research in experimental and theoretical high energy, nuclear and condensed matter physics. The OHSAS 18001 System includes these programs and encompasses related activities such as computational studies, design, construction and testing of experimental apparatus for both onsite and offsite experiments and other activities in Buildings 510, 832, 820, and certain laboratories in 703 that are used for Physics Department experiments. Beginning fiscal year 2006 (October 1, 2005), the building 703 laboratories will become the responsibility of the Condensed Matter Physics/Material Science Division. This new Division will also include the Condensed Matter Physics personnel and experiments that reside in building 510. The Physics Department will continue to perform the Experiment Safety Reviews and include those personnel in the OHSAS program until the new Division is prepared to assume those responsibilities. The changeover responsibilities and timetable will be defined in an Inter-department Memorandum Of Understanding (MOU).

Work performed within other Departments or Divisions, or work performed in Department buildings by non-Department BNL organizations (such as Plant Engineering) is not included in the scope of this OHS. The Physics Department OHS does not cover work that is performed offsite.

The Center for Accelerator Physics (CAP) explores new avenues of accelerator design and technology. The administration of CAP is located in the Physics Department and is included in that OHS. The Physics Department treats CAP as a research group (Advanced Accelerator in the Organizational Chart) that performs theory and computing functions.

The Physics Department operates the Accelerator Test Facility (ATF). This facility is dedicated to the long-term development and exploration of new techniques for the acceleration and control of high-brightness electron beams. Both in-house and visiting scientists use the ATF. The operation, maintenance and experimental use of this facility are included in the Physics Department OHS.

The following sections of this document describe how the Physics Department executes and maintains compliance with the provisions of OHSAS 18001 Management Plan and identifies specific documents that satisfy those requirements.

4.1 General Requirements – *The organization shall establish and maintain an OH&S management system. [OHSAS 18001 4.1]*

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BNL has established and maintained an [Occupational Safety and Health \(OHS\) \(Pilot for OHSAS 18001\)](#) Management System Description at the institutional level that is embedded within the BNL Management System approach. This document is used to implement the OHS 18001 pilot program in the Physics Department. The [SBMS](#) Management System Description provides documentation that describes the Laboratory OHS. The content of the SBMS documents addresses the external requirements that apply to BNL's work. The processes that BNL uses to implement the requirements of OHSAS 18001 are described within these documents.

The Physics Department's OHS includes activities in the Physics Department, and the Accelerator Test Facility (ATF), as well as all employees, users, collaborators, tenants, contractors, students, and visitors who conduct work in these areas. This work includes activities occurring within buildings 510, 820, 832 and 703 laboratories occupied by Physics Department experiments. Activities associated with the Condensed Matter Physics group will operate under the Physics Department's OHS, until altered by an MOU.

Other Physics Department work carried out at BNL but not within department facilities are under the supervision/control of the other facility or bound by agreements (as specified in a MOU) between the other facilities and the Physics Department.

Work carried out at locations other than BNL is under the management of that location and follows the rules of that state/country. However, the scope of the work is discussed in Experimental Safety Reviews.

4.2 Occupational Safety and Health Policy – *There shall be an Occupational Safety and Health policy authorized by the organization's top management that clearly states overall health and safety objectives and a commitment to improving health and safety performance. [OHSAS 18001, 4.2]*

BNL emphasizes the Laboratory's specific commitments to Occupational Safety and Health management and improvement through issuance of a BNL [Environmental, Safety, Security and Health Policy](#) (ESSH). This policy statement refines and applies the overarching OHS policies to the specific Occupational Safety and Health risks of work conducted at BNL. The Physics Department adheres to the BNL Lab ESSH Policy. This Policy is communicated to employees and guests through Department Meetings, Directorate meetings and is posted on BNL's web site and in the lobby of building 510.

4.3 Planning

4.3.1 Planning for Hazard identification, Risk Assessment and Risk Control – *The organization shall establish and maintain procedures for the ongoing identification of hazards, the assessment of risks, and the implementation of necessary control measures. [OHSAS 18001, 4.3.1]*

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The Physics Department has implemented programs for identifying the Occupational Safety and Health hazards and risks of its current activities, products, or services. The OHS-related hazard and risk assessment BNL processes are:

- Facility Hazard Categorization Subject Area
- Facility Risk Analysis (FRA) interim procedure and the Job Risk Analysis (JRA) interim procedure
- Work Planning and Control for Experiments and Operations Subject Area
- Environment, Safety & Health Inspections Subject Area
- Documenting OHS Management System (OHS MS) Objectives/Targets and OHS Management Programs (OMPs) interim procedure
- Safety Analysis Documents.
- Conduct of Operations
- Facility and job-related procedures

The Physics Department implemented programs are:

- The PO Facility Use Agreements
- Experimental Safety Review Documents ([ESRs](#))
- Work Permits
- [Facility Risk Analyses](#)
- [Job Risk Analyses](#)
- Safety Assessment Documents
- Conduct of Operations

4.3.2 Legal and other Requirements – *The organization shall establish and maintain a procedure for identifying and accessing the legal and other OH&S requirements that are applicable to it. [OHSAS 18001, 4.3.2]*

The procedure for identifying and accessing specific legal and other requirements relevant to OH&S is defined in the Legal and Other Requirements interim procedure. The OHS Representative is notified of changes in OHS relevant subject areas and determines how the change affects the Department, what needs to be implemented, and how the affected individuals are notified. If a significant change in procedure is required, the Physics ESSH Committee, Group Safety Coordinators and/or the Chair is involved in the process.

4.3.3 Objectives – *The organization shall establish and maintain documented Occupational Safety and Health objectives, at each relevant function and level within the organization. [OHSAS 18001, 4.3.3]*

BNL has Critical Outcomes and Performance Measures, which identify OHS objectives, targets and performance measures. The Physics Department establishes objectives and targets that apply to specific activities. These objectives and targets are incorporated into the [Physics Department OHS Management Plan](#).

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4.3.4 OHS Management Program – *The organization shall establish and maintain an OH&S management program for achieving its objectives. [OHSAS 18001, 4.3.4]*

The Physics Department has a responsibility to assist the Laboratory in achieving success on the Critical Outcomes. These actions augment the activities conducted at the Laboratory level and target the actions needed to achieve and maintain compliance, or improve the OHS management system. The Documenting OHS Management System (OHS MS) Objectives/Targets and OHS Management Plan (OMPs) interim procedure provides the process and recommended tools to help the Physics Department develop action plans to achieve their objectives. In accordance with the Laboratory's Integrated Assessment Program, Physics Department managers conduct assessments to monitor and evaluate performance, including progress in meeting their objectives. When new experiments or industrial processes are initiated or modified, Occupational Safety and Health hazards are analyzed for risks and if deemed significant, then methods to reduce the risks are incorporated.

The OHS Management Plan will be reviewed annually via a Management Review. The OHS Representative will track progress and completion on all performance measures and tasks.

4.4 Implementation and Operation

4.4.1 Structure and Responsibility – *The roles, responsibilities and authorities of personnel shall be defined, documented and communicated in order to facilitate OH&S management. [OHSAS 18001, 4.4.1]*

The process for identifying employee roles, responsibilities, authorities, and accountability (R2A2s) is documented in the Roles, Responsibilities, Accountabilities, and Authorities (R2A2) Subject Area, which is provided and maintained through the Human Resources Management System Description. The subject area includes the following Occupational Safety and Health responsibilities for all staff:

- Perform work effectively, efficiently, and safely.
- Cooperate with and assist other staff.
- Develop and manage career goals.
- Keep capabilities and qualifications current, including completing required training for assigned tasks and work location.
- Comply with Laboratory policies, standards, and procedures, and regulatory requirements.
- Identify, report, and protect intellectual property and other proprietary information.
- Maintain awareness of environmental impact of work, and apply pollution prevention and waste minimization techniques.
- Identify potential hazards, environmental concerns, and unsafe conditions or practices in work or at work site, and implement or suggest controls to minimize risk.
- Cease work activity, and/or issue a Stop Work Order upon observing imminent danger, and report the danger immediately to supervisor or ESH Coordinator.

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- Respond to emergency situations, alarms, or occurrence in an appropriate manner.
- Adhere to instructions on location warning signs and postings.

Specialized roles are assigned on the department's organization chart that is issued by the Department Chair annually and as needed when assignments change.

Annual Performance appraisals assess individual performance against pre-assigned goals and responsibilities (Performance Appraisal and Performance Goals and Measures for Employees Subject Areas).

Line Management is ultimately responsible for the identification and reporting of hazards and risks. This is accomplished by the reporting any new experiments or modifications to existing experimental activities to the Experimental Safety Review Coordinator or to the Work Control Coordinator as required by Work Planning and Control for Experiments and Operations and in accordance with Departmental policy.

The Organizational Charts for the Physics Department are on the [department web page](#). Responsibilities for achieving objectives and targets are defined in the [OHS Management Plan](#).

4.4.2 Training, Awareness, and Competence – *Personnel shall be competent to perform tasks that may impact on OH&S in the workplace. [OHSAS 18001, 4.4.2]*

BNL's Training and Qualifications Management System Description is used in order to ensure that staff are trained and qualified to perform their jobs. Physics Department management identifies training requirements using the Training and Qualifications Subject Area. BNL training programs are designed to make staff, visiting scientists, and contractors aware of the Occupational Safety and Health policy and their roles in Occupational Safety and Health management.

Work specific training requirements are identified through experimental safety review, routine work planning and are documented on JTAs. Required BNL training and some Department Specific training is tracked through the Brookhaven Training Management System (BTMS). Training for employees/collaborators is accomplished by BNL required training, read & sign documents, emails, postings, or briefings. The Department Training Coordinator tracks required BNL and Department specific training. Supervisors must ensure that their employees/collaborators training is complete before they can work on any given activity.

4.4.3 Consultation and Communication – *The organization shall have procedures for ensuring that pertinent OH&S information is communicated to and from employees and other interested parties. [OHSAS 18001, 4.4.3]*

Communication within the laboratory is covered by the laboratory implementation of the SBMS System. Communication is covered in the following subject areas:

- Correspondence and Commitment Tracking Subject Area.

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- External Communications Mgmt System Description.
- Internal Communication Mgmt System Description.
- BNL Community Outreach Plan.
- Community Involvement in Laboratory Decision-making.
- OHSAS 18001 Interim Procedure, OSH Consultation and Communication, 2004-18001-008.

Employees are involved in the development and review of policies and procedures to manage risks; consulted where there are any changes that affect workplace health and safety; and represented on health and safety matters by participation in Department Safety Committees, Tier 1 inspections, and by participation in the work planning and control process.

Physics Department employees are informed of OHS issues through OHS training/briefings, distribution of OHS information bulletins, facility specific training, review of ESRs prior to starting work and the work permit system, the department and the directorate websites, e-mails, memos and staff meetings.

4.4.4 Documentation – *The organization shall establish and maintain information, in a suitable medium such as paper or electronic form, that: describes the core elements of the management system and their interaction; and provides direction to related documentation.*
[OHSAS 18001, 4.4.4]

This document and all documents incorporated by reference or attachment to this document satisfy the OHS documentation requirements. A list of documents and records is available on the [Physics Department web page](#).

4.4.5 Document and Data Control – *The organization shall establish and maintain procedures for controlling all documents and data required by this OHSAS specification.*
[OHSAS 18001, 4.4.5]

Document control is implemented as per the requirements in the Internal Controlled Documents Subject Area. Department-level documents (e.g. [EMS Manual](#), [OHSAS Manual](#)) are posted on the Department web sites. The OHS Representative is responsible for the maintenance of the OHS documents and to notify the appropriate staff upon modification. They are reviewed annually, or as needed. The OHS Representative or appropriate departmental system owners approve them.

4.4.6 Operational Control – *The organization shall identify those operations and activities that are associated with the identified risks where control measures need to be applied.*
[OHSAS 18001, 4.4.6]

Each facility within the Physics Department has in place a Facility Use Agreement, which defines the operating envelope of the building.

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Establishing and implementing operational controls for activities that have “substantial” risk is documented in the Job Risk Analysis (JRA) interim procedure and Facility Risk Analysis (FRA) interim procedure. Risk, in this context, is the product of several factors such as frequency, likelihood and severity. Points for frequency, likelihood and severity are based on a stepwise numerical system developed by the Liberty Mutual Company. A specific range of point values for risk is associated with one of five descriptive classes of risk: negligible, acceptable, moderate, substantial and intolerable.

Suppliers/Contractors abide by our OHS system as it applies to the work they are doing in our facilities as required in their contract (see BNL Procurement Operations Manual, Section III-A). The work is screened via experimental review or work permits following the Work Planning and Control For Experiments and Operations subject area.

4.4.7 Emergency Preparedness and Response – *The organization shall establish and maintain plans and procedures to identify the potential for, and responses to, incidents and emergency situations, and for preventing and mitigating the likely illness and injury that may be associated with them. [OHSAS 18001, 4.4.7]*

BNL's Emergency Preparedness and Emergency Response Services Management System describe the programs established and maintained for identifying and responding to accidents and emergencies. The Physics Department follows the Emergency Preparedness Subject Area and Stop Work Subject Area.

[Local Emergency Plans](#) were developed by the Physics Department for buildings 510, 820, and 832 using the Emergency Preparedness Subject Area for guidance. These plans are reviewed annually and updated as required and in compliance with the BNL emergency procedures. The hazardous waste 90-Day area in building 510 has a posted contingency plan. The ESRs for specific research projects also include emergency response information specific to the activity.

BNL carries out drills for relevant buildings and facilities involving OHS issues. Participation in these drills is mandatory for all effected employees, visitors and guests on site at the time.

4.5 Checking and Corrective Action

4.5.1 Performance measurement and monitoring – *The organization shall establish and maintain procedures to monitor and measure OH&S performance on a regular basis. [OHSAS 18001, 4.5.1]*

Compliance performance is monitored via compliance assessments according to the requirements in the Department’s Self Assessment Plan. Assessments include quarterly Tier 1 inspections, and targeted compliance assessments. The results of Tier 1 inspections are tracked. Findings are tracked internally by each department closure. Performance against the objectives is reviewed annually via Physics Department’s Management Review.

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4.5.2 Accidents, incidents, non-conformances and corrective and preventive action – *The organization shall establish and maintain procedures for defining responsibility and authority. [OHSAS 18001, 4.5.2]*

The Physics Department follows the Nonconformances, Identifying and Reporting and Corrective and Preventive Action Subject Areas and applies a graded approach using the Graded Approach for Quality Requirements Subject Area. The Job Risk Analysis (JRA) interim procedure and Facility Risk Analysis (FRA) interim procedure require the Physics Department OHS Management Representative to schedule and assign appropriate personnel to conduct or update a Job Risk Analysis or Facility Risk Analysis of proposed corrective/preventive actions associated with a critique, occurrence, near-miss or non-conformance. Lab-wide corrective actions are handled through the ATS and ORPS Reporting. Departmental corrective actions are handled through our Tier 1 process documentation, and specific departmental tracking systems (FATS).

4.5.3 Records and records management – *The organization shall establish and maintain procedures for the identification, maintenance and disposition of OH&S records, as well as the results of audits and reviews. [OHSAS 18001, 4.5.3]*

Physics Department OHS records are defined, inventoried, maintained and retained as defined in the Records Management Subject Area.

The ES&H Coordinator is responsible for the Tier 1 Inspection data. The Experimental Review Coordinator is responsible for the Experimental Safety Reviews (current and previous years). Training records are located in the Brookhaven Training Management System.

4.5.4 Audit – *The organization shall establish and maintain an audit program and procedures for periodic OH&S management system audits. [OHSAS 18001, 4.5.4]*

The Physics Department Self Assessment Plan describes the system by which it will assess its OHS system. The Self Assessment Plan reflects the requirements as described in the Integrated Assessment subject area. The frequency of the assessment will be in conformance with the requirements of the subject area and the results of previous assessment. The OHSAS 18001 Interim Procedure, Audit Checklist, 2004-18001-005 may be used for guidance while performing these audits. The OHS Representative is responsible for coordinating the assessment, reporting of results (to management via the management review) and follow-up.

Compliance (Tier 1) Audits are conducted quarterly via the Department Tier 1 Inspections according to the Subject Area. The findings are filed with the Tier 1 inspection results and a summary is sent to Physics personnel. The findings are reviewed at the following quarterly Tier 1 inspection for open items.

Line Management or the Operations staff may schedule additional, unplanned audits if necessary.

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4.6 Management Review – *The organization's top management shall, at intervals that it determines, review the OH&S management system, to ensure its continuing suitability, adequacy and effectiveness. [OHSAS 18001, 4.6]*

The Management Review will involve, at minimum, the Physics Department Chair and the OHS Project Manager. It will be coordinated and documented by the Physics Department OHS Representative.

The Physics Department will combine the OHS Management Review with the EMS Management Review. The OHS Management Representatives will schedule an annual review of the OHS Program with senior management. The agenda of the Management Reviews reflects the full scope of the presentation, which in this case includes OHS and EMS. This integrated Management Review is accomplished in accordance with the provisions of the Integrated Management Review interim procedure.